THE SEEDS OF DEATH

DOCTOR WHO

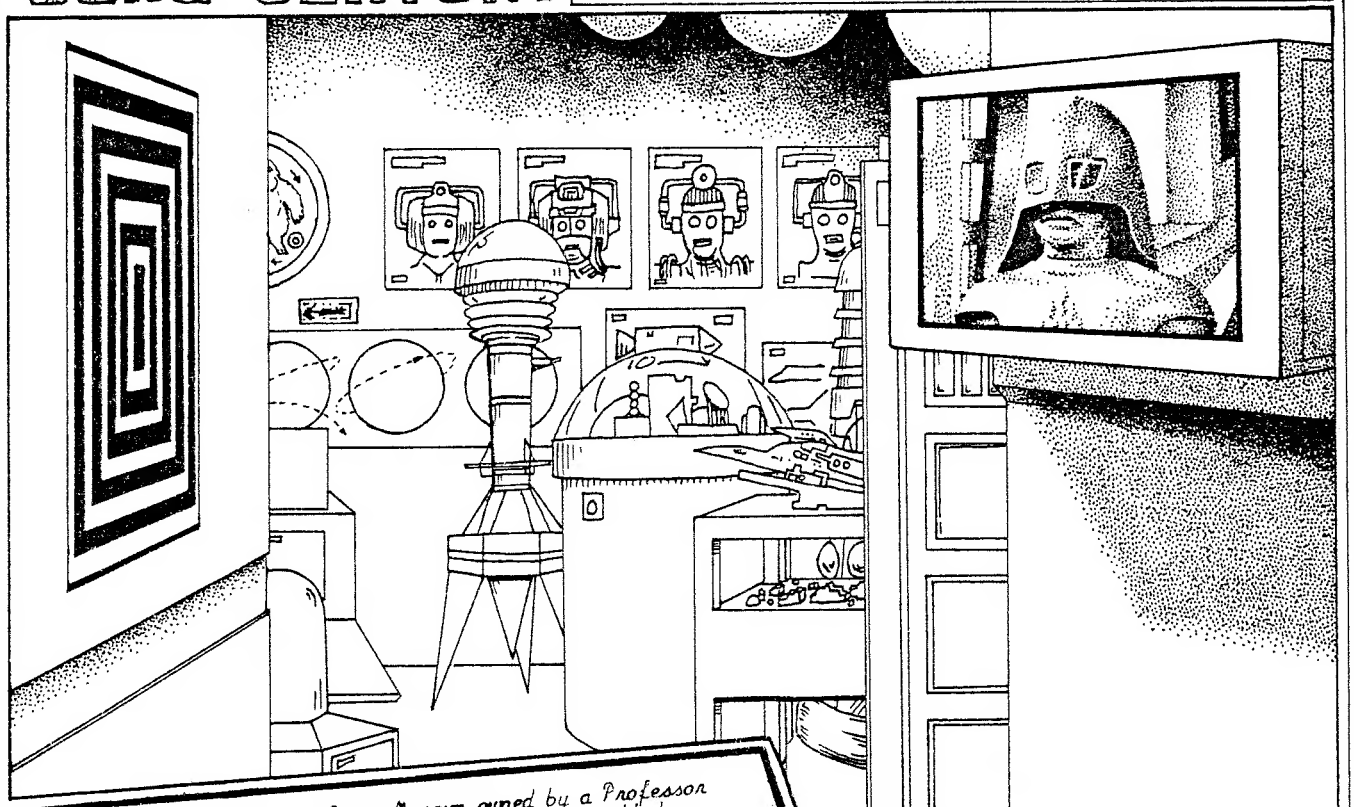
AN ADVENTURE IN SPACE & TIME

CODE: X.X.

Brian Hayles

THE EARTH & MOON

22nd CENTURY



TARDIS landed on Earth in a Space Museum owned by a Professor Eldred. Earth at this stage relied solely on a system called Travel Mat (which was instantaneous) for all its transport needs. However a fault had developed at the Moonbase control centre, making the system inoperable. Radnor, the head of T Mat, wanted to use a rocket of Eldred's to regain contact with the Moon, and Jamie, Zoe and I agreed to pilot it; Eldred wouldn't have been able to stand the strain, poor fellow.

Ice Warriors, led by Slaar, had taken over the Moonbase. Their plan was to send Martian seed pods to Earth by T Mat before invading, but they were being hindered by sabotage to the controls by one of the base's personnel. Once on the Moon I examined one of the pods, but it burst and released some vapour which knocked me out. These pods produced a fungus which absorbed oxygen; a complete blanket of it would have changed the Earth's atmosphere quite drastically, making it completely uninhabitable for humans - but exactly like the atmosphere on Mars. When I came round, I was able to return to Earth with Jamie and Zoe via the repaired T Mat, but unfortunately some pods and an Ice Warrior had preceded us and were causing widespread havoc.

Whilst analysing a pod with Eldred I discovered that the fungus could be destroyed by ordinary water! Jamie and Zoe rushed to the Weather Control Bureau to produce rainfall over the whole country, but the controls had been sabotaged by the Ice Warrior. I arrived soon after alerted by Eldred's comment that the Warrior was last spotted near the bureau and killed the Martian using a solar energy weapon. After that I bypassed the damaged weather controls, and caused widespread rainfall thereby completely destroying the fungus. T Mat's Technical Co-ordinator, Gia Kelly, managed to set up a false homing beacon and launch it in a satellite to draw the Martian invasion fleet into a close orbit around the Sun. But before the false signal could be activated, Slaar's own signal had to be de-activated.

I T-Matted to the Moon, armed with a portable solar energy weapon, and managed to cancel Slaar's signal, thus sealing the fate of the invasion fleet. However, I was then discovered by the Martian commander and the last remaining Warrior on the Moon. My weapon was destroyed and my death ordered, but fortunately Jamie arrived via the T Mat and both Martians were killed. The entire invading force had been destroyed! Jamie and I then T Matted back to Earth and left quickly with Zoe to avoid any awkward questions.

As for T Mat being the ultimate form of travel, well, I found it rather disappointing. There was absolutely no sensation at all ...

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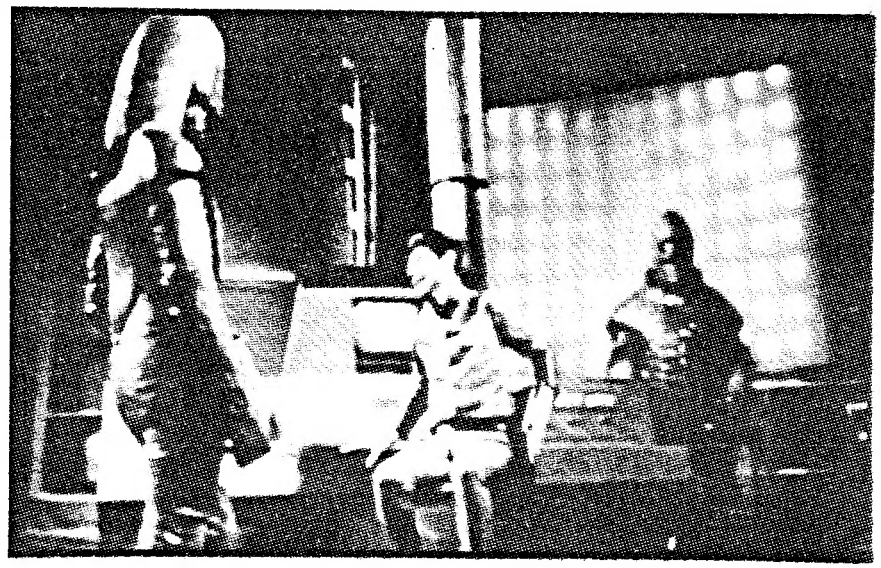
DRAMA EXTRACT



Seated at the T MAT control desk, the Doctor listened quietly as the Grand Marshal spoke to Slaar from the Martian space fleet, traces of panic becoming increasingly evident in his voice.

"...the signal has not led us to the Moon's gravitational field."

"Have you lost my signal?" hissed Slaar, hastily examining the settings on the still-bleeping homing unit.

"Your signal is being received clearly, but we are off course."

"Are you sure your calculations are correct?" Panic was creeping even into Slaar's laboured tones now.

"Our calculations have been checked. You have sent us into an orbit close to the Sun!"

"Use your retro-active rockets to change course!"

"It is too late. We have insufficient fuel for manoeuver. You have failed us, Slaar. We shall all die. We are being pulled into the orbit of the Sun..." The image of the Grand Marshal's face flickered on the monitor screen, then shrivelled to nothing; symbolic of the fate soon to overtake the once seemingly-invincible Ice Warrior war fleet.

For a moment Slaar stood aghast, unable to comprehend the paradox of the homing signal's failure. "This is impossible," he hissed in impotent rage.

"The signal," whispered his Warrior lieutenant. "There is no power."

Slaar swung round to verify his subordinate's statement. The signal was transmitting, but with no amplification its range would be severely limited. Murderously, Slaar turned his gaze towards the little man sitting by the T MAT desk. "You did this," he said, pointing accusingly.

The Doctor rose to his feet and stretched languidly. "Yes. That signal has been going no further than this control room."

Slaar was incredulous. "But they were receiving my signal."

The Doctor shook his head. "Not your signal - ours."

"You sent a signal? From Earth?"

"We sent up a satellite. That signal has sent your fleet into a false orbit."

"The heat of the Sun will kill them. You have destroyed our entire fleet."

Thwarted and dishonoured, the Martian warlord strove to save face. "Earth will still die. The fungus will take the oxygen from your atmosphere."

Calmly the Doctor folded his arms. "No, I'm afraid you've failed there too. We've found how to destroy the fungus."

A tremble of rage shuddered through the alien commander's body as he reeled under the impact of his total defeat by this unprepossessing little man. The Doctor closed his eyes, waiting for his luck to run out.

"Kill him!" Slaar spat. Obediently the Ice Warrior raised its wrist gun.

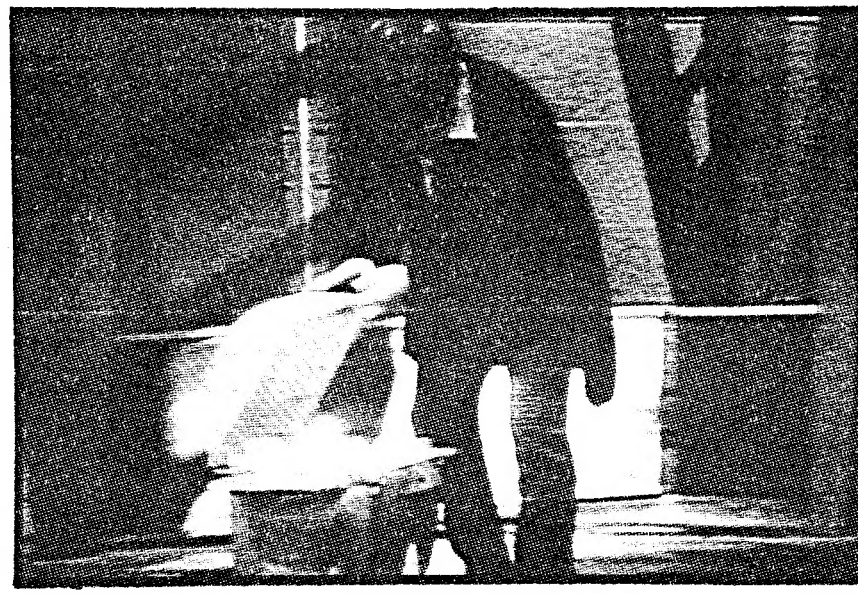
"Doctor!" A voice suddenly rang out from inside the T MAT cubicle.

Snapping his eyes open, the Doctor was first delighted, then appalled to see Jamie's newly-materialised face beaming at him. "Jamie, look out!" he yelled, hurling himself at the Ice Warrior. The reptilian leviathan was knocked momentarily off balance. It was long enough. Perceiving an attack, the Warrior fired its gun, full blast, at the target. But the target was not the Doctor. As the creature regained its balance it was horrified to see the fallen body of its commander, Slaar. It hesitated for a moment, but that was all the time Jamie needed to extricate himself from the cubicle and enter the fray with his traditional battle-cry:

"Craig an Tor!"

STORY REVIEW

Trevor Wayne



Once again the TARDIS brings the Doctor and his two young companions to the ever beset and bewildered planet Earth, apparently some one hundred years after their last visit. A matter of weeks after the crew of Apollo 8 had sent Christmas greetings to the world from lunar orbit, the 'Doctor Who' audience was shown a future where rockets and all other means of transport have been consigned to museums by the world-wide adoption of an instantaneous teleportation system known as Travel Mat. It is, of course, a quite ludicrous premise that any one system of transport would ever be universally adopted without any back up provision being made. If Brian Hayles was trying to make the point that it is wrong to rely on technology, it was surely rather wasted on the audience of the day who were well versed in the technicalities of Project Apollo with its back up systems on back up systems. More likely that the obvious weakness of the exclusive T MAT set up provided the writer with a sure foundation for the various aspects of his story. It must be said, though, that the whole T MAT-dominated, inward-looking society presented in this story is directly contrary to the inner logic of the 'Doctor Who' series. It is inconceivable that Mankind would have given up space travel when there had been no less than five attempts to invade the Earth by powers from outer space in the Twentieth Century alone (so far as the 'Doctor Who' viewer was able to ascertain, at least). All this was forgotten as Martian Commander Slaar and his Ice Warrior subordinates seized control of the unguarded key T MAT establishment on the Moon with embarrassing ease and naturally imagined that they held the Earth in their pincers...

Yes, the Ice Warriors had returned. This time they were led by one of their ruling caste, delineated by a radically different, much smoother exterior. Slaar, portrayed by Alan Bennion with a menace so icy that at times it verges on the glacial, is a triumphant blend of excellent acting and costume design. The cowl-like helmet which masks his features, save for the sharp-toothed mouth we can only imagine to be both reptilian and demonic, is disturbingly like the hoods worn by members of the Inquisition or Ku Klux Klan. The hideous, sibilant sound of the name Slaar seems to say everything about this Mephistophelean character who dominates the entire story with chilly ease. Unfortunately, this excellent characterisation does not extend to the other Ice Warriors who remain monstrous, rather clumsy thugs throughout and seem somehow physically more tatty than in their debut appearance.

There was, however, an above-average selection of human characters in this story; the seemingly-obligatory crusty old scientist, Eldred, a military man, Commander Radnor (played by Ronald Leigh-Hunt, already well known as Colonel Buchan in Southern TV's popular children's adventure series 'Freewheelers' and earlier as King Arthur to William (Ian Chesterton) Russell's 'Sir Lancelot') and a tall, attractive blonde, Gia Kelly. Refreshingly it is the girl who has the strongest part to play in the events of the story. She is the Technical Co-ordinator of T MAT and a truly "liberated lady". Wearing her hair in a striking long pony tail and dressed in a quilted or textured one-piece suit, Kelly is well aware of both her good looks and her scientific skills. She does not have to make apologies for being a girl; witness her unself-conscious application of nail varnish in front of both Radnor, her immediate and only superior in the T MAT hierarchy, and her own staff. Kelly is first and foremost a scientist and at times seems a rather cold, calculating sort of person. With T MAT working only at the whim of the Ice Warriors, she is at one stage forced to use an old

motor car taken from a museum; however, when Eldred excitedly enquires after the make she dismisses this as irrelevant - she is concerned only with the fact that it works. A veritable "snow queen" against Slaar, the Ice Warrior.

Terry Scully's cowardly Fewsham is another well written and portrayed character. Amidst all the heroic and determined characters, this one frightened little man is an oddly sympathetic figure. From Lunar Controller Osgood's outburst in the first episode we gather that Fewsham is not highly regarded by his superiors; little wonder then that when faced with the option of being killed or helping the Ice Warriors, he chooses the latter. But he is not without humanity; he does not betray Zoe to the Martians when she steals into the control room to turn up the heating (again the aliens have a simple weakness easily exploited) and in the end he decides to stay among the enemy in order to spy on them rather than return to Earth and face the judgement of his fellows. Finally he pays the ultimate penalty for his treachery, whilst at the same time redeeming himself.

Whilst the human beings in this story are frantically rushing from one place to another in their desperate attempt to defeat their enemy and regain control of the vital T MAT system, Slaar calmly waits on the Moon making his own moves with predetermined precision. The seeds of the title are almost lost in amongst the wealth of other details - the title of the story should have been something like 'Trouble with T MAT' - and they are all too easily washed away with water. Apart from their use against the Doctor, the effect of the seeds on Earth is reported second-hand and happens off camera, in the same way that most of the guards killed by the Warrior sent to Earth by Slaar to sabotage Weather Control (wasn't that on the Moon once and almost seized by the Cybermen?) are in a corridor out of sight of the viewer - although in this latter instance Radnor's look of helpless desperation speaks volumes.

Despite a very strong supporting cast, the Doctor remains the focus of attention, flying to the Moon and confronting the deadly Slaar, nearly being T MATed out into space, discovering the means to destroy the seeds and finally returning to the Moon for the showdown. He is well supported by Zoe, who as always displays her technical ability and pluck in abundance (although, having changed her customary glamorous attire for a more practical trouser suit, she on this occasion leaves the more blatant pin-up appeal to Louise Pajo as Kelly). Jamie, meanwhile, despite being rendered almost totally redundant by the combination of Zoe and Kelly, is able in the end to recover some of his credibility as a man of action by returning to the Moon and helping the Doctor to destroy Slaar.

Ultimately 'The Seeds of Death' is a story in which the characters are more important than the plot. It is a struggle between Slaar's force and Radnor's technicians, the latter being aided by the Doctor and his companions. The effects of the struggle on the ordinary inhabitants of Mars are ignored and the effects on the people of Earth pushed to one side to focus maximum attention on the main protagonists. What we do glimpse of the Earth of Radnor and Kelly is not particularly inviting, but we are left in no doubt that it must be preferable to the Mars of Slaar and his kind.

At the story's conclusion the Doctor has washed away the deadly seeds, burnt up the Martian invasion fleet and wiped out Slaar's task force...Another triumph, for both the Doctor and the people involved in producing this memorable serial.

SPACE & TIME

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SPACE & TIME

STAND UP FROZEN SOLDIERS

David Auger

A television programme can sometimes have a very powerful and far-reaching effect on its audience. Whatever the effect, however, there is one thing that is certain: each viewer will have his own individual and quite unique perception of the programme - and one which will in some cases be different to that intended or expected by the programme makers. To a very large extent, of course, a viewer's perception and understanding of a programme will be conditioned by and dependent upon his previous knowledge and experience. This fact is particularly significant in the case of young children, whose knowledge and experience are naturally limited. Thus it is easy to see how to a seven-year-old watching 'The Ice Warriors' in 1967, the Martians' talk of freeing their stricken ship from the glacier might conjure up in his imagination the image of an old clipper-like vessel caught in the crystal grip of the ice-face. Just as that boy's perception would be coloured by his previous understanding of the noun "ship", so other viewer's perceptions would be governed by their own knowledge and experience.

Similarly, viewers' memories of a programme can often be corrupted by things that happen after its transmission. For example, our understanding of characters in a long-running series like 'Doctor Who' is so governed by our current knowledge of them that it is easy to assume certain personality traits have been present since the beginning, even though they may not have been part of the original conception. This confusion can be complicated still further when we discover that the original characters underwent a transformation before ever reaching the screen. Such was the case with the Ice Warriors.

These alien beings, who referred to their home world simply as "the Red Planet", were originally conceived as cyborgs. The decision to make them reptiles may well have been taken quite late in the day, as there are no references in the camera script to their new form. Indeed, the few descriptive remarks in the script seem to hark back to their more robotic origins. In the second episode, Varga's helmet is described as having what appears to be "a strip of glass...a photo-electronic cell" which begins to "pulse with light" as life returns to his torpid form. In the following episode, Varga's second-in-command, Zondal, flashes his "helmet-mounted sensor" to activate the door of their space ship. The most intriguing reference, though, occurs near the end of the second episode, when Varga is described as having "lit-up throat connections" which illuminate his helmet and face. With descriptions like these, it is possible to imagine a being not unlike a Cyberman. But if the Cybermen were subservient to the rule of logic, the Ice Warriors we saw were totally dedicated to the art of war.

With script descriptions like "the four warriors alive and paraded" and "Zondal marches smartly to his men to give them orders", it is not difficult to imagine them as soldiers in the British army, with Zondal as a beligerent sergeant-major. However, this image is tarnished by their behaviour. Unlike many human soldiers who subscribe to the Geneva Convention, the warriors from the Red Planet recognise no morality in conflict. They despise the weak and respect only superior force. They will callously eliminate any being who is of no use to them - as the scavenger Storr discovers when he fails to form an alliance with them. It is Storr's friend, scientist Penley, who is accurately to describe the warriors: "They're ruthless. They place no value on human life." They are creatures of the warrior code; a thought not far from the writer's mind. When we first see Varga frozen in the ice-face, his helmet is described as "hood-like and ominous, in the style of that used under the opening titles of 'Hereward the Wake'". Hereward lived in the middle ages and fought against the Normans after their invasion of 1066. And like those Saxon warriors, the Martians are powerful figures; their soft, almost whispering voices create an almost contradictory image until they brandish their sonic guns which, as Varga explains when threatening Victoria, will "burst your brain with noise".

Apart from using brute force, as evidenced when Varga

recklessly searches the laboratory for the power packs needed to revive his men, the warriors are also military strategists. When he realises that the humans might pursue him to rescue Victoria, Varga orders his men to melt a cave out of the ice-face. When the humans arrive they can be lured into this trap and be easily destroyed.

Unlike the Cybermen, the Martians are clearly emotional. They are proud of, indeed almost arrogant in, their own ability to resolve a given situation in their favour. And even if they feel no responsibility towards other life forms, they have a strong sense of loyalty to each other. Zondal willingly submits himself for punishment by his superior officer for "allowing" the Doctor and Victoria to escape from the stranded space ship. And we can almost feel sympathy towards Varga when he is first revived. He comes across as a tragic figure, suddenly awakened to find himself in a totally alien environment. Naturally, he is suspicious of the strange beings on this planet and refuses to believe Victoria's claims about the humans' good will: "They would not help me; they would keep me as a

curiosity and they will leave my warriors for dead or destroy them." However, even in the same scene Varga's arrogance surfaces, when he openly boasts of his intentions: "But with my men, I can talk from strength. Then we shall decide...whether to go back to our own world or conquor this."

Eventually we realise that this suspicion of others is a major failing in the warriors' characters. When the Doctor travels across the tundra to the glacier, offering to assist them in freeing their vessel, Varga is still filled with distrust. He believes that the Doctor is a spy who will betray them at the earliest opportunity. Presumably this distrust is a product of their own pattern of behaviour - they would never help another being, so the notion that another being would wish to help them is inconcaivable. They can only regard the ioniser as a destructive weapon - albeit an admirable one - and not as a scientific tool, as the Doctor claims.

At the end of their first serial, the background culture of the warriors is somewhat obscure. It is uncertain whether Varga and his subordinates are just members of the Martian military, or whether the whole race is equally war-like. Unfortunately, 'The Seeds of Death' left these intriguing questions unanswered, although we were to learn more about their native environment. Indeed, the whole plot revolves around the Martians' plan to lower the oxygen content of the Earth to match that of Mars. Presumably it is our planet's higher oxygen content that is responsible for the warriors' rasping voices, as the Grand Marshal, who is aboard a Martian space vessel, does not have these breathing difficulties. The warriors' preference for cool climates is also made clear when Zoe manages to overpower them by turning up the Moonbase's heating system.

'The Seeds of Death' is also notable for the introduction of two new ranks of Ice Warrior: Slaar, the field commander of the invasion, and the aforementioned Grand Marshal, to whom Slaar reports. Both of these warriors are free of the cumbersome armour worn by the lower ranks, being dressed instead in skin-tight tunics with breastplates and high-domed helmets which taper down the backs of their necks.

As a character, Slaar is far more beligerent than Varga, who was possibly just a simple space ship captain, although the cunning of the latter is still evident. Sadly, however, Slaar and his subordinates are for the most part a bunch of thugs who completely lack the depth of character of their predecessors.

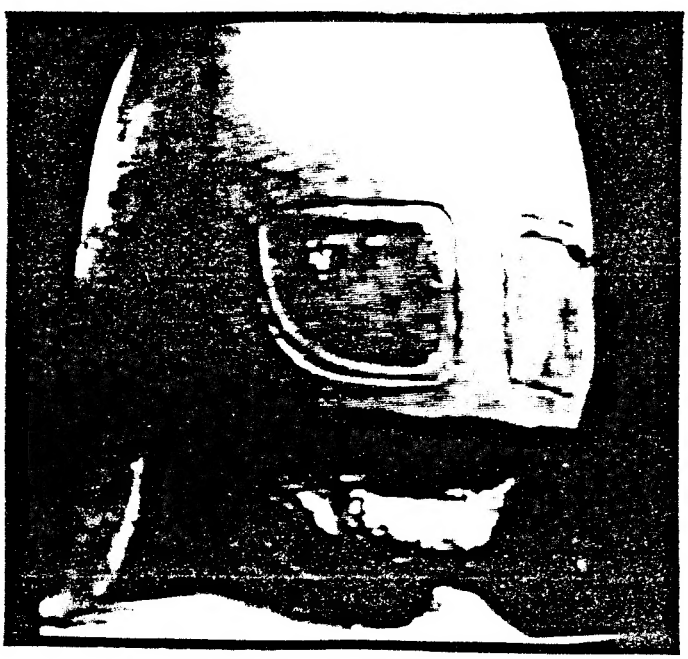
So, just as the Martians had changed in concept before they ever appeared on screen, they underwent a further transformation between their first two serials. At the end of the sixties, the impression we have is one of a harsh and ruthless race of warriors - but warriors without nobility, and with no sense of humour. But then, just as our perceptions had changed already, the future could hold new revelations which would cause them to change again, replacing our initial memory of the creatures' characters with a somewhat different one.

'HAYLESMANSHIP'

Gary Hopkins

Although writer Brian Hayles had not anticipated a sequel to 'The Ice Warriors' (or, as it turned out, a prequel) he was certainly not unwilling to write one. In devising the creatures for their debut appearance, he had been keen to establish them within a feasible scenario, and to this end had made a detailed study of the known planetary conditions on Mars. He had thus given himself ample room to develop the Martian character and civilisation. "Every thousand years or so I would dip into their lifestyle, as it were," he explained. "It would be nice to see how things had changed since we last saw them."

'The Seeds of Death' saw the first step in this development with the introduction of a different rank of Warrior, Slaar, "sleeker, more refined, more aristocratic" than anything seen in the original serial. But as Hayles emphasised strongly, the emergence of this Ice Warlord was purely a "design point", intended to sustain interest in the creatures and attract international sales of 'Doctor Who'. As he pointed out, "the Daleks and the Cybermen changed their appearance slightly each time they turned up in a new story. The BBC would always find a way of improving the costumes or making life a little easier for the actors inside them. I sympathise with this, remembering Bernard Bresslaw's problem as Varga, the Martian Captain in 'The Ice Warriors'" (see Serial "OO").



One of Hayles' great interests was in the apparently archaic, a fascination with things that "seem very ancient but turn out to be from the future". In 'The Ice Warriors' this involves the discovery of a Martian space ship captain in a one-thousand-year-old glacier, and a Gothic mansion containing a futuristic computer. In 'The Seeds of Death' the TARDIS materialises inside a space museum, a less subtle but nonetheless effective way of viewing time past, present and future. Artefacts from our future are already being showcased for later generations.

But if Hayles was allowed to indulge his interest in time manipulation, his other more absorbing passion for paranormal themes and the "manipulation of the mind" was held firmly in check. His first script for 'Doctor Who', 'The Celestial Toymaker' (see Serial "Y"), had ventured into this territory, but was deemed to be too frightening for its intended audience and was "softened up" before transmission. Hayles described the story as "a psychological horror play" and, despite its shift of emphasis from adult psychology to a simpler, albeit bizarre tall story from the toyroom of the mind, he recalled it with considerable fondness and often toyed with the idea of nudging 'Doctor Who' in that direction at some later stage.

Hayles wanted to develop the Ice Warriors further, and seriously considered returning to Mars to explore their civilisation. Perhaps, then, he might have combined his interest in that planet and its inhabitants with his fascination with the human mind. Varga and Slaar, despite their elegance and status, were still the warriors, and perhaps little more than one facet of what would probably be a glittering society. Typical of Hayles, it would be a logically-structured world, well-ordered and highly civilised, regardless of the hostile policies of its ambassadors. What chance, I wonder, of his dream ever being realised?

TECHNICAL OBSERVATIONS

As the sixth season progressed, the 'Doctor Who' Production Office was in a state of some turmoil. Around the turn of the year Patrick Troughton had privately announced to Peter Bryant his intention not to renew his contract and, with uncertainty growing over the series' future in general (see 'Season Six Special' release), both Derrick Sherwin and Peter Bryant himself were also seen to move on.

Confident in Terrance Dicks' abilities as a script editor, Derrick Sherwin made the first move, taking extended leave to pursue a new job outside the BBC. It was thus left to Dicks to complete the editing work on 'The Seeds of Death' - a story Sherwin had commissioned some time earlier - although as it transpired very little needed doing to writer Brian Hayles' scripts.

Unfortunately for Derrick Sherwin, the job he was hunting fell through and he returned, for the present, to 'Doctor Who'. By this time, however, Peter Bryant's interests were directed elsewhere - particularly towards a planned new BBC series called 'Paul Temple' - and gradually, though not unwillingly, Sherwin found himself adopting more the mantle of Producer, a role well within his experience and capabilities. This situation continued for several months, and was complicated still further when a number of planned stories proved unworkable and Sherwin had to resume his script editing duties while Terrance Dicks concentrated his efforts on an epic-length replacement story.

Amid this confusion, the task of realising 'The Seeds of Death' fell to a very experienced Director, Michael Ferguson. Ferguson was a man known for his ability to turn out visually exciting television, and on this occasion he had the added advantage that the story was to be recorded in Studio D, Lime Grove, which had recently been equipped with the new generation of colour cameras in preparation for BBC1 going into colour around the autumn of 1969. As well as being able to view images in colour, these cameras offered Directors many new facilities, the most important of which was the ability to zoom. Previously, while film cameras could zoom, studio electronic cameras could not. The old black and white cameras had a turret of four, fixed focus lenses; thus, to go from a wide-angle shot to a close-up the Director would have to cut away to another camera, giving the first Camera Operator time to rotate a close-up lens into the view position. The new cameras, on the other hand, featured variable-focus, servo-assisted lenses, enabling the Operators to zoom in and out - very rapidly if they so wished. This was a facility Michael Ferguson made use of many times during 'The Seeds of Death'.

Ferguson also used a variety of skilful camera techniques to heighten the drama of the story. To give a sense of loneliness to Fewsham's ordeal on the Moon he frequently established the scene with a camera mounted high up on a crane dolly, while to enliven lengthy "chat" scenes he often tracked his camera around the set - sometimes starting off behind a wall divider and moving into the room as an actor entered. Slow, mixing fades between scenes were used on a number of occasions to add suspense to the narrative. By far the most distinctive of Ferguson's techniques, however, was to line up four of his five cameras on one subject (or group of subjects) and then to intercut rapidly between them, thus lending excitement to an otherwise fairly static sequence. Particularly effective examples of this were the scenes of Ice Warriors being killed in fields of thermal radiation; the death throes of each Warrior were captured from four different perspectives, each camera zooming rapidly in and out.

Equally effective was Ferguson's use of film, shot on location for this story at Hampstead Heath, North London - coincidentally (?) only a stone's throw from Terrance Dicks' house. Here he extended the visual imagery of scenes by shooting from unusual camera angles. One of the most memorable shots in the story showed a Martian looming over the ridge of a hill in silhouette, backlit by the sun.

For this story special effects were once again turned over to the 'Trading Post' company and designer Bill King. Their brief was to provide a number of models and model landscapes, plus some full sized props (e.g. guns). One of the model sets was a starscape showing the Earth and the Moon in forced perspective, and Michael Ferguson was sufficiently impressed with this to suggest using it for a series of special opening graphics sequences. Thus each episode opened with the story title, writer and episode number captions being superimposed over a tracking shot of the Earth as seen from the Moon. The bulk of the model work, however, revolved around the rocket journey from Earth to the Moon made by the Doctor's group. Eldred's private launch bay and the lunar landing pad were in fact the same model set suitably re-dressed. The rocket itself was nearly four feet long and capable of belching piped smoke from exhaust ventricles. Suspended from wires, its range of movement was very limited, so take-off and landing sequences were supplemented with stock NASA film.

The rocket model was also seen in the Eldred museum set as a model. This set featured a number of stock props and models, among them the TARDIS astral map from 'The Web Planet' (Serial "N"), an instrument bank first seen in 'The Space Museum'(Serial "Q"), the drill from 'The Dominators' (Serial "TT") and a lunar bus from an episode of 'Out of the Unknown'. Due to space restrictions, the TARDIS prop could not be fitted into the museum set in episode one, so only one wall of the Police Box is shown as the travellers emerge and, later, a caption slide of the ship is flashed onto the screen as Eldred notices his museum's latest acquisition.

Dudley Simpson wrote and, with John Blanchard and Eric Allen, performed the incidental music for this story. With the Ice Warriors featuring so prominently Simpson scored the music around them, giving it a heavy, almost military beat arranged using percussion and piano.

Two Ice Warriors featured in episodes one to three with a third, played by Sonny Caldinez, joining for the remainder of the story. All the costumes were leftovers from 'The Ice Warriors' (Serial "OO"), although due to the different heights and builds of the actors the various costume components were arranged in a different order (e.g. Varga's helmet with, say, Zondal's body shell). Only the latex make-up around the mouths was freshly applied, crafted by sculptor John Friedlander.

Friedlander also made the helmet worn by Slaar, whose costume was otherwise the creation of Costume Designer Bobi Bartlett. The construction of this costume followed the same component pattern as Varga's, except that the body shell was made of heavy-duty rubber rather than fibre glass. The helmet - a fibre glass shell - was cut, shaped and painted to blend in with the body. The Martian Grand Marshal's helmet differed from Slaar's only in that it had a more "spangled" appearance.

The effect of the Ice Warriors' sonic guns was achieved using the same technique as in their debut story (see page "39-09").

The Ice Warrior voices were again supplied by the actors themselves, although problems were experienced in trying to record them "live" in the studio and for several of the early episodes they had to be over-dubbed during post production. For the confrontation between the Doctor and Slaar in episode six, Michael Ferguson took the precaution of pre-recording all of Alan Bennion's solo sequences two days in advance. Of all the Martians, only the Grand Marshal, supposedly in his own atmosphere, was allowed to speak in normal tones.

Not to be outdone, Special Sounds Designer Brian Hodgson gave the Ice Warriors a hissing/gurgling background sound, aiding subliminally the audience's acceptance of them as reptiles.

For the scene in episode one where the travellers watch a narrated slide show demonstrating T MAT, Designer Paul Allen arranged for one of the T MAT cubicle props to be taken around London and photographed at several well-known landmarks, such as a bridge over the river Thames.

The T MAT materialisation/dematerialisation effect was achieved by "locking off" the camera and pausing recording while the actor entered/left the cubicle. This was another of the facilities made available only by the introduction of the new generation of cameras and improved hardware.

The Visual Effects Department's foam generator was once again pressed into service for this story, supplying the bulk of the "fungus" seen on location. The unusual step was taken for these scenes of actually building a set on location, a lengthy process involving the construction of a scaffolding frame. The seed pods themselves were nothing more than conventional balloons, filled with powder and inflated by hidden gas cylinders until they burst.

Because of its size, most of the Weather Station interiors were shot on film at Ealing.

PRODUCTION CREDITS

SERIAL "XX"	SIX EPISODES	BLACK AND WHITE
PART 1	-	25th. January 1969
PART 2	-	1st. February 1969
PART 3	-	8th. February 1969
PART 4	-	15th. February 1969
PART 5	-	22nd. February 1969
PART 6	-	1st. March 1969

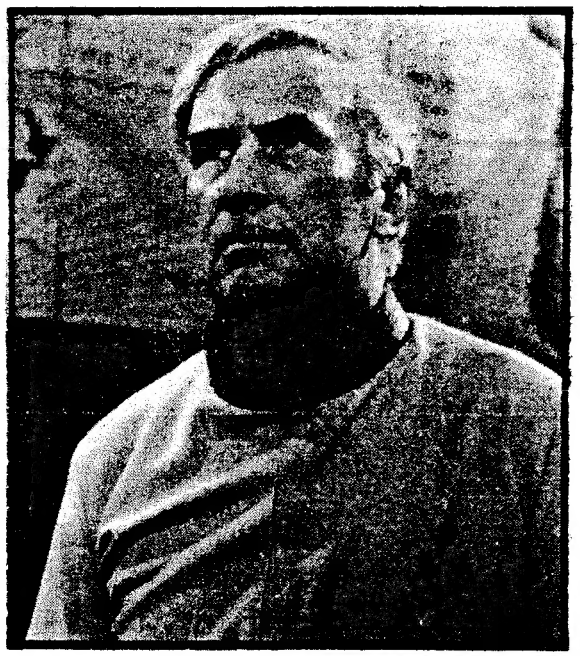
CAST

Doctor Who.....Patrick Troughton
Jamie.....Frazer Hines
Zoe.....Wendy Padbury

Gia Kelly.....Louise Pajo
Computer Voice.....John Witty
Brent.....Ric Felgate
Osgood.....Harry Towb
Radnor.....Ronald Leigh-Hunt
Fewsham.....Terry Scully
Phipps.....Christopher Coll
Locke.....Martin Cort
Eldred.....Philip Ray
Slaar.....Alan Bennion
Security Guard.....Derrick Slater
Sir James Gregson.....Hugh Morton
Grand Marshal.....Graham Leaman
Ice Warriors.....Steve Peters
Tony Harwood, Sonny Caldinez
Technicians.....Monique Briant
Royston Farrell, Edward Cogdell
Eric Kent, Pat Gorman
Ernie Claydon, Jimmy Haswell
Derek Chafer
Alan Chuntz
Ron Conrad
Crawford Lyle
Guards.....Peter Blair Stewart
John Crease, Peter Roy
Douglas Roe, Keith Goodman
Phil Lundgren
Tony Hutchins
Fred Clemson
Derrick Slater
Dr. Who's double★.....Tommy Laird
Weather Station Operator
Peter Whittaker

TECHNICAL CREDITS

Production Assistant...Fiona Cumming
Assistant Floor Manager
Trina Cornwell
Assistants.....Tricia Warrington
Raquel Ebbutt
Grams Operator.....John Lloyd
Vision Mixer.....Chris Griffin
Floor Assistant.....John Norton
Lighting.....Howard King
Sound.....Bryan Forgham
Technical Manager.....Fred Wright
Film Cameraman.....Peter Hall
Visual Effects.....Bill King
Special Sound.....Brian Hodgson
Costumes.....Bobi Bartlett
Make-up.....Sylvia James
Incidental Music.....Dudley Simpson
Script Editor.....Terrance Dicks
Designer.....Paul Allen
Producer.....Peter Bryant
Director.....Michael Ferguson



★Ep. 4 only, in place of vacationing Patrick Troughton. Last episode not to feature the Doctor